

RANDOLPH AFB MIDAIR COLLISION AVOIDANCE



**Mid-Air Collision
Avoidance
(MACA)
Program**

Randolph AFB

**Flight Safety
Office**

PURPOSE OF THIS BRIEFING

- INCREASE THE OVERALL AWARENESS
OF MILITARY FLIGHT OPERATIONS
- REDUCE THE POTENTIAL FOR A
MIDAIR COLLISION

OVERVIEW

- MILITARY OPERATING AREAS (MOAs)
- MILITARY TRAINING ROUTES (MTRs)
- SLOW SPEED LOW ALTITUDE TRAINING ROUTES (SRs)
- MILITARY VFR TRAFFIC PATTERNS
- MACA FUNDAMENTALS

MOA KNOWLEDGE

- WHAT IS A MOA?
 - AIRSPACE OF DEFINED
VERTICAL AND LATERAL LIMITS
FOR MILITARY FLIGHT TRAINING

MOA KNOWLEDGE

- WHAT IS THE PURPOSE OF A MOA?
 - TO SEPARATE MILITARY FLIGHT TRAINING ACTIVITIES FROM OTHER TRAFFIC

MOA KNOWLEDGE

- CAN **IFR** TRAFFIC BE CLEARED THROUGH A MOA?
 - YES, IF IFR SEPARATION CAN BE PROVIDED BY AIR TRAFFIC CONTROL (ATC)

MOA KNOWLEDGE

- CAN **VFR** TRAFFIC TRANSIT AN ACTIVE MOA?
 - YES
- IS THIS WISE?
 - ABSOLUTELY NOT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

MOA KNOWLEDGE

- WHY?? BECAUSE SPECIAL FLYING ACTIVITIES OCCUR WITHIN A MOA
 - ACROBATIC MANEUVERS
 - SPINS
 - FORMATION FLYING
 - AIR COMBAT TRAINING (ACT)/BASIC FIGHTER MANEUVERS (BFM)
 - TRAFFIC PATTERN STALLS
 - INSTRUMENT TRAINING MANEUVERS

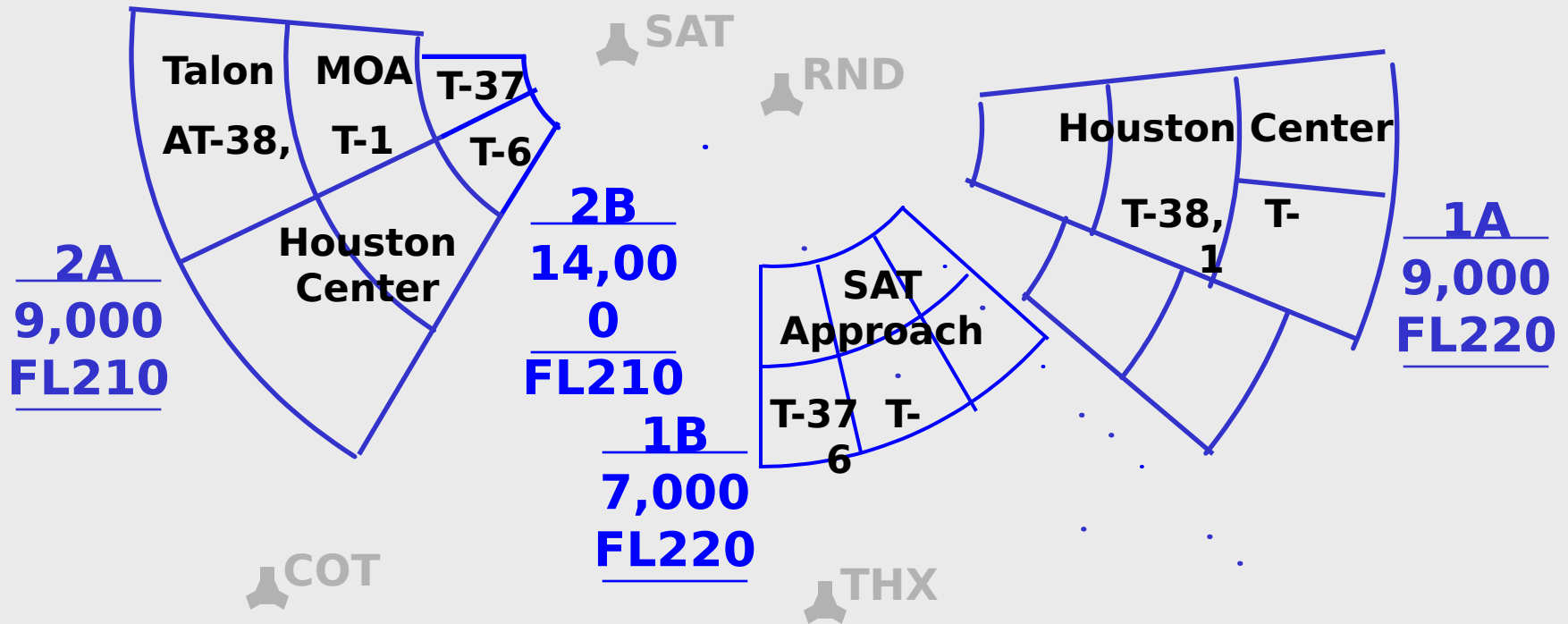
MOA KNOWLEDGE

- WHERE CAN YOU GET INFORMATION REGARDING MOAs THAT MAY BE A FACTOR FOR **YOUR** NEXT FLIGHT?
 - SECTIONAL CHARTS
 - ENROUTE LOW ALTITUDE CHARTS
 - VFR TERMINAL AREA CHARTS

MOA KNOWLEDGE

- OPERATING TIMES/ALTITUDES IN THESE PUBLICATIONS WILL BE AS SHOWN UNLESS CHANGED BY **NOTAM**.
- HOW CAN YOU GET INFO ON A MOA DURING FLIGHT?
 - CONTACT ATC OR THE NEAREST FSS

Randolph MOAs



Randolph 1A MOA



**Location:
East of
Randolph
AFB**

**Effective
Altitudes:
9000' MSL
to FL220**

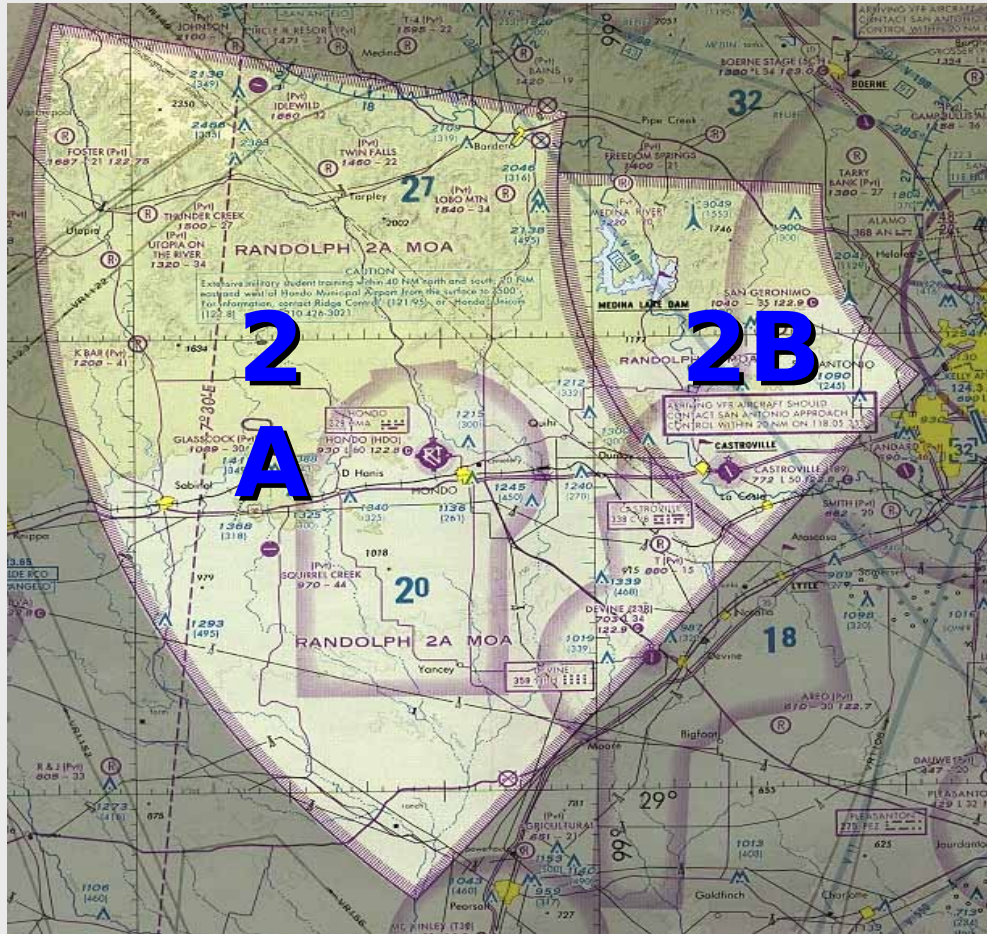
**Primary
Users: T-38,**

The map displays the Randolph 1B MOA, a large, irregularly shaped area outlined in a thick purple line. The MOA is situated in the central part of the map, covering a significant portion of the landscape. Surrounding the MOA are various towns and communities, including Tall Towers, Haverhill East, Stockdale, Pandora, Bailey, Koscisko, Gillen, Poon, Deween, Palls City, Hobson, Panna Maria, Helena, Karnes City, Lenz, Fashing, Campbellton, and Kingsville. The map also shows major roads, such as US-180 and US-10, and various elevation points marked with numbers and symbols. The MOA's boundaries are defined by a thick purple line, and the area within is shaded in a light yellow color. The map includes a grid system with letters A through J and numbers 1 through 10, which likely correspond to specific sections or zones within the MOA. The overall layout of the map provides a detailed view of the MOA's location and its relationship to the surrounding environment.

Effective Altitudes: 7000' MSL to FL220

**Primary
User: T-37,**

Randolph 2A, 2B MOA



**Location: West
of Randolph
AFB**

**Effective
Altitudes: RAN
2A - 9000' MSL
to FL210**

**RAN 2B -
14000' MSL to
FL220**

**Primary Users:
T-37 T-6 T-38**

MILITARY TRAINING ROUTES (MTRs)

MTR KNOWLEDGE

- WHAT IS AN MTR?
 - A LOW ALTITUDE ROUTE OF DEFINED VERTICAL AND LATERAL DIMENSIONS ESTABLISHED FOR THE CONDUCT OF MILITARY FLIGHT TRAINING AT AIRSPEEDS IN EXCESS OF 250 KNOTS

MTR KNOWLEDGE

- **WHAT ALTITUDES AND AIRSPEEDS ARE MTRS NORMALLY FLOWN AT?**
 - NORMALLY 500' TO 1500' AGL, BUT CAN EXTEND FROM THE SURFACE TO ALTITUDES ABOVE 1500' AGL
 - NORMALLY 300 - 400 KNOTS, BUT CAN BE HIGHER DEPENDING ON AIRCRAFT TYPE

MTR KNOWLEDGE

- HOW ARE MTRs CLASSIFIED?
 - IR ROUTES (PILOT OPERATES ON AN IFR FLIGHT PLAN)
 - VR ROUTES (PILOT OPERATES ON A VFR FLIGHT PLAN)

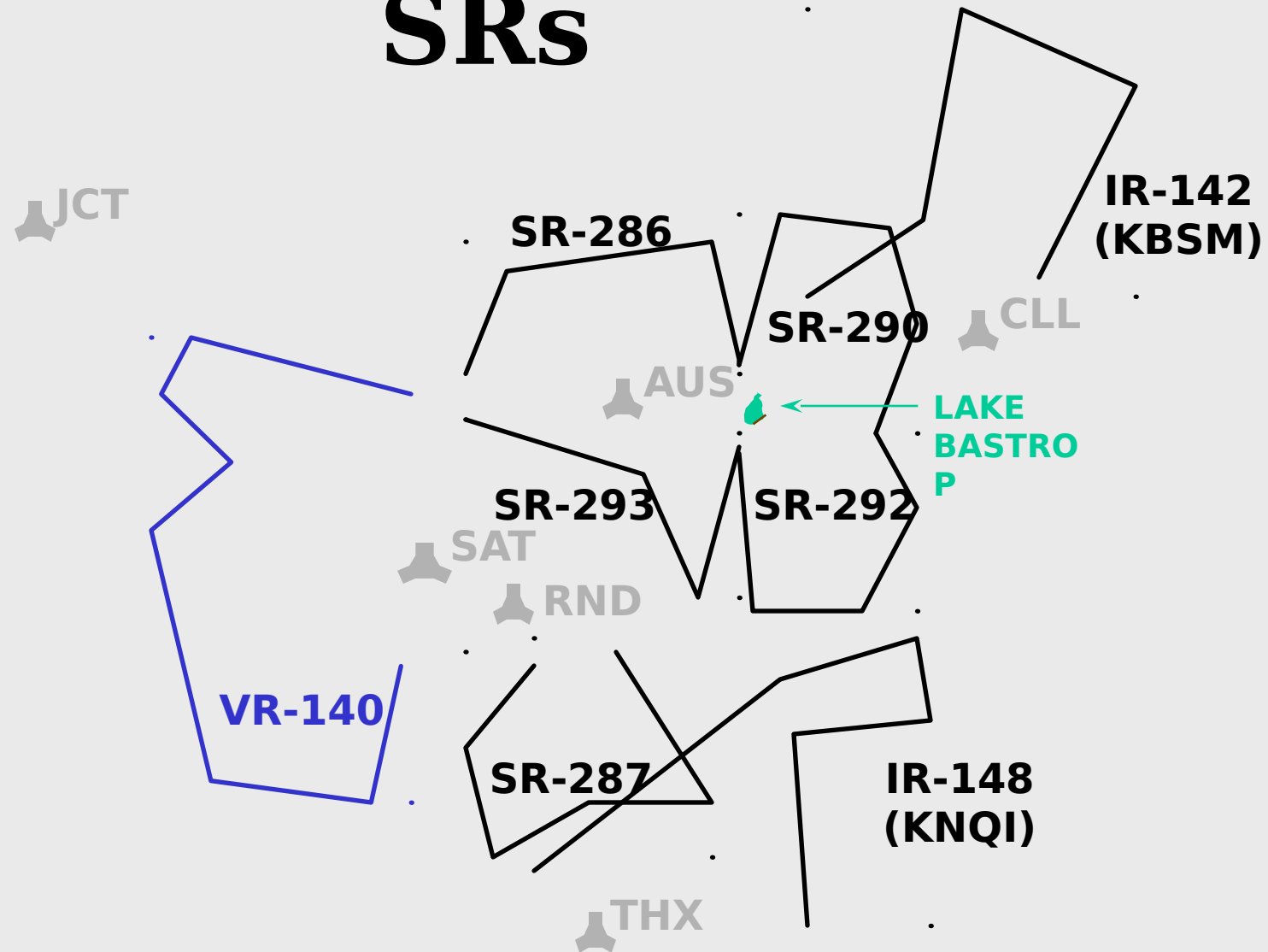
SLOW SPEED LOW ALTITUDE TRAINING ROUTES (SRs)

SR KNOWLEDGE

- WHAT IS AN SR?
 - A LOW ALTITUDE ROUTE OF DEFINED VERTICAL AND LATERAL DIMENSIONS ESTABLISHED FOR THE CONDUCT OF MILITARY FLIGHT TRAINING AT AIRSPEEDS OF 250 KNOTS OR LESS
 - SRs ARE ALWAYS AT OR BELOW 1500' AGL

RANDOLPH AFB

Local MTRs and SRs



Local MTRs and CDs

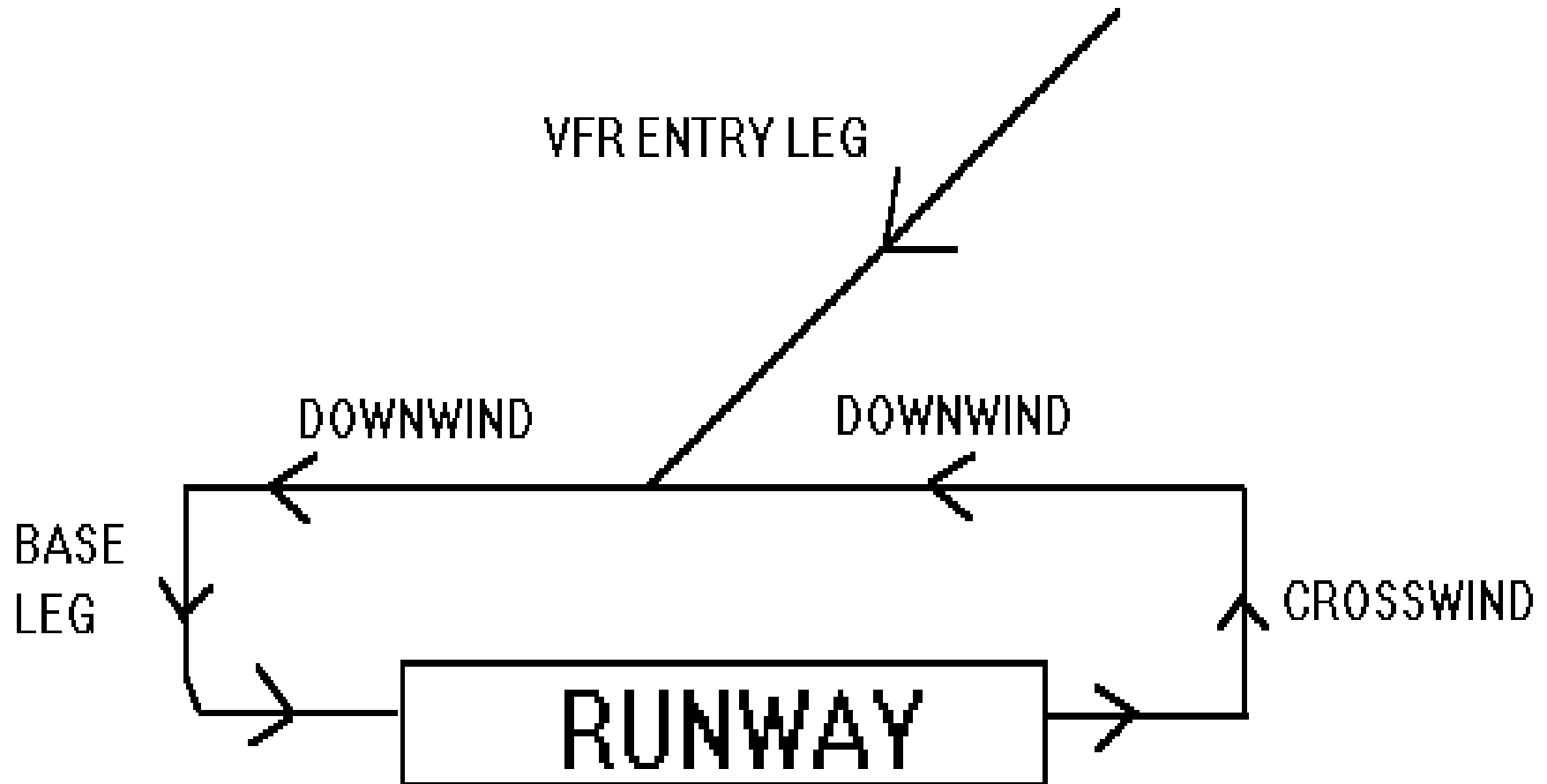


MILITARY VFR TRAFFIC PATTERNS

MILITARY VFR TRAFFIC PATTERN

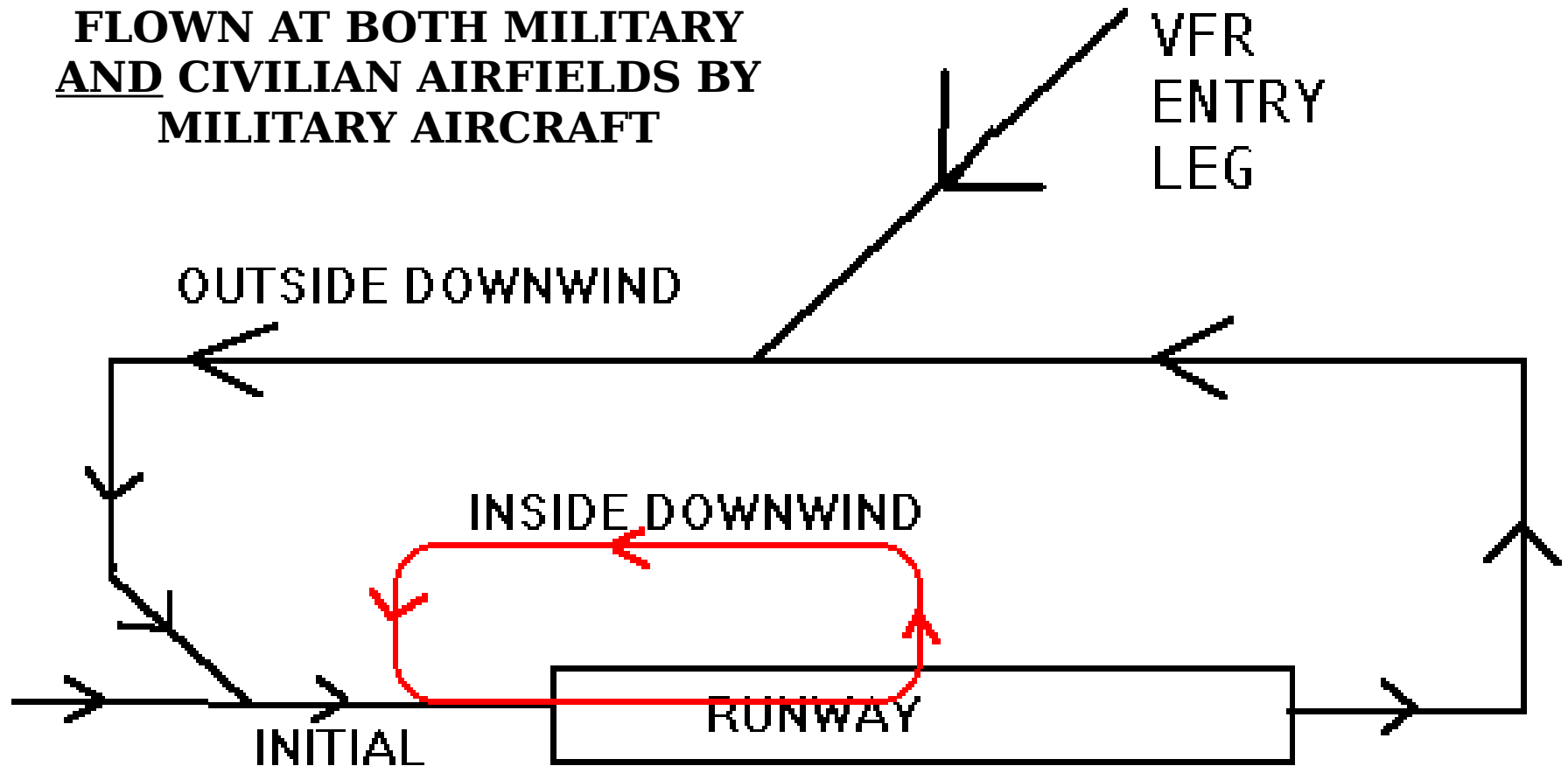
- HAS TWO ENTRY POINTS, NOT ONE:
 - VFR ENTRY POINT
 - INITIAL
- HAS TWO DOWNWIND LEGS NOT ONE:
 - INSIDE DOWNWIND
 - OUTSIDE DOWNWIND
- NORMALLY BETWEEN 1000 - 2000' AGL

STANDARD CIVILIAN VFR TRAFFIC PATTERN



MILITARY VFR TRAFFIC PATTERN

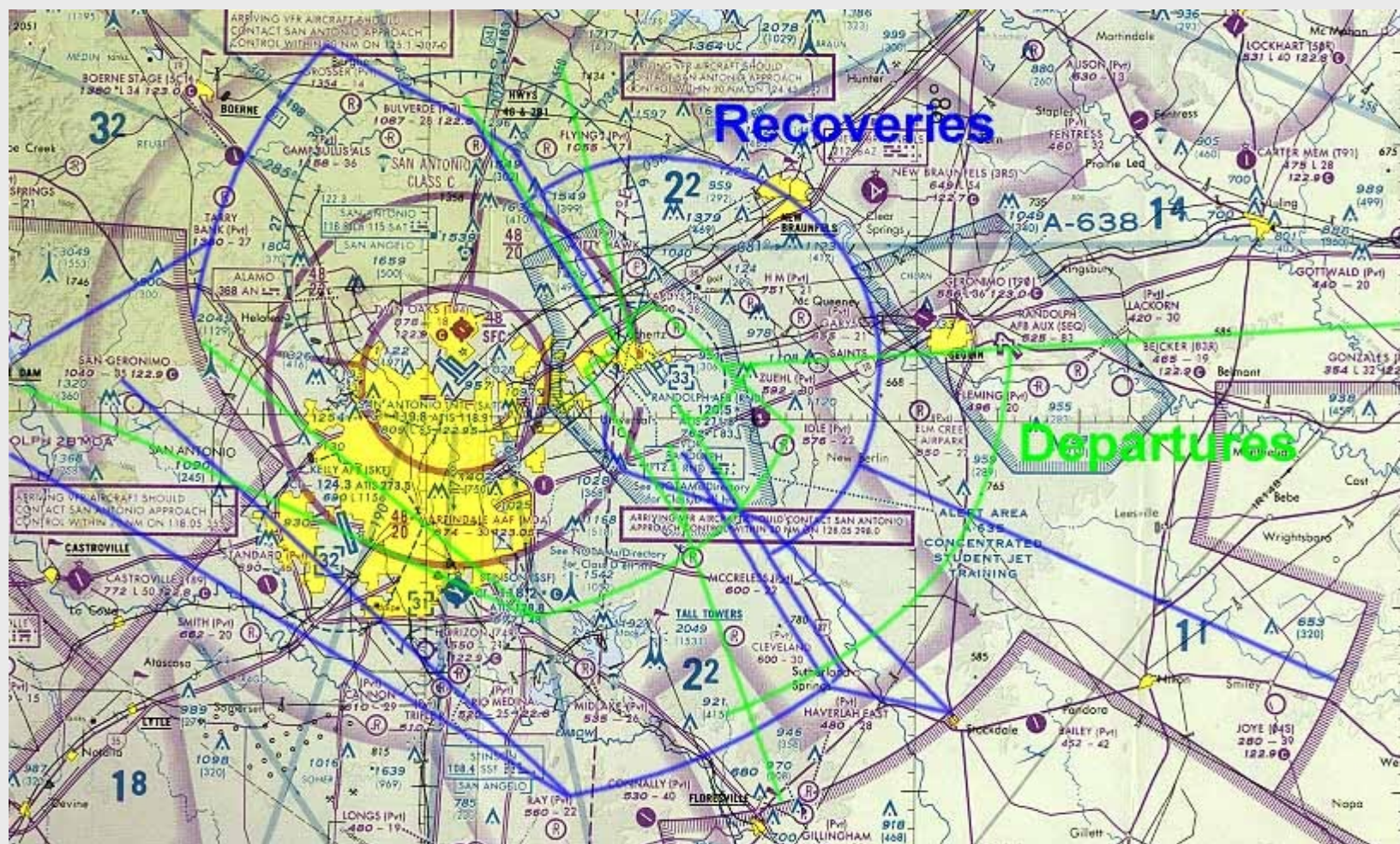
**FLOWN AT BOTH MILITARY
AND CIVILIAN AIRFIELDS BY
MILITARY AIRCRAFT**



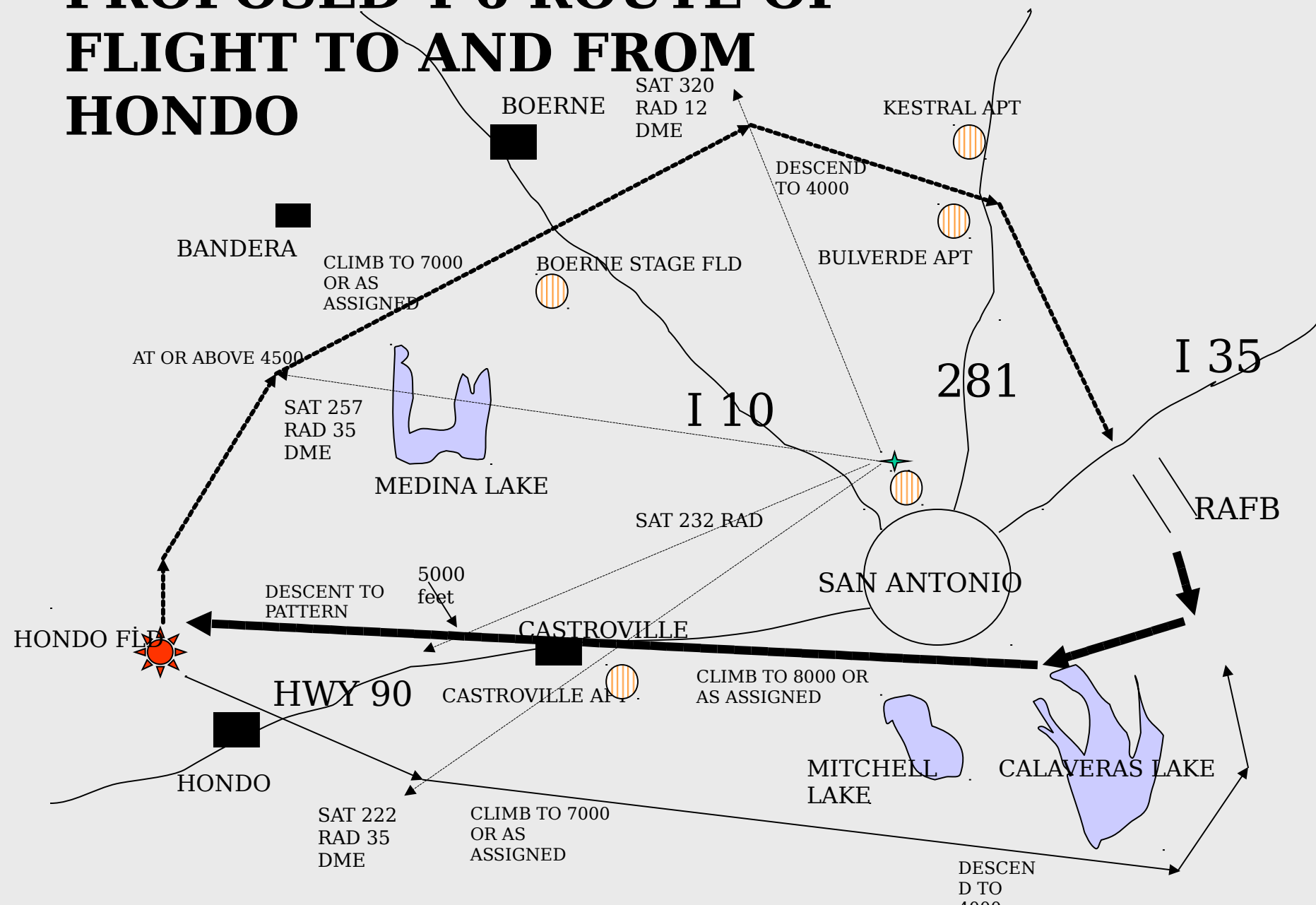
Departures

Recoveries

MOA Transitions



PROPOSED T-6 ROUTE OF FLIGHT TO AND FROM HONDO



MIDAIR COLLISIONS

MOST OCCUR:

- Day VFR
- Controlled Airspace
- Within 5 NM of an airport
- Below 5000 ft AGL

MACA FUNDAMENTALS

- FLIGHT PLAN WITH THE AWARENESS OF WHERE MILITARY FLIGHT OPERATIONS WILL BE CONDUCTED
- AVOID ALL POTENTIAL CONFLICTS TO THE MAXIMUM EXTENT POSSIBLE

MACA FUNDAMENTALS

- **USE ALL AVAILABLE RADAR SERVICES**
- **PRIORITIZE COCKPIT DUTIES AND REMAIN SITUATIONALLY AWARE**
- **KEEP YOUR HEAD OUT OF THE COCKPIT, AND**

MACA FUNDAMENTALS

CLEAR!!!!!!

IN SUMMARY

- MILITARY OPERATING AREAS (MOAs)
- MILITARY TRAINING ROUTES (MTRs)
- SLOW SPEED LOW ALTITUDE TRAINING ROUTES (SRs)
- MILITARY VFR TRAFFIC PATTERNS
- MACA FUNDAMENTALS

QUESTIONS?

**Randolph AFB Flight Safety Office
MACA Program Manager**

210-652-2224

12ftw.safetywebmaster@randolph.af.mil

12 FTW Flight Safety web page:

**[https://www-
r.randolph.af.mil/12ftw/wing/safety](https://www-r.randolph.af.mil/12ftw/wing/safety)**